Figure 1(a)

```
                                                                              90
                   1
J96    (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCCCGTCGTGAATGTG
EC45   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCCCTGCCTGAATGTG
B217   (1) TTCGCCTGTAAAACCGCCAATGGTACAGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCTCGCCTGAATGTG
DS17   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCAATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
B212   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
EC42   (1) TTCGCCTGTAAAACCGCCAATGGCACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCGCCGTGAATGTG
EC56   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCGTCGTGAATGTG
B210   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
B203   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCAATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
EC58   (1) TTCGCCTGTAAAACCCGCCAATGGCACCGCAATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
EC60   (1) TTCGCCTGTAAAACCGCCAATGGCACCGCAATCCCTATTGGCGGTCGGCAGCGCCAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
EC61   (1) TTCGCTATAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCCGCCGTCGTGAATGTG
EC80   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
EC95   (1) TTCGCCTGTAAAACCGCCAATGGCCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCGCCGTGAATGTG
EC62   (1) ATCGCCTGTAAAACCGCCAATGGCACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACCTTGCGCCCGCCGTGAATGTG
B238   (1) TTCGCCTGTAAAACCGCCAATGGCACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAAACATTGCGCCCGCCGTGAATGTG
B240   (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCAATGTTTATGTAAACTTGGCCGCCGTCGTGAATGTG
B242   (1) TTTGCCTGTAAAACCGCCAATGGCACCGCTATCCCTATTGGCGGTGGCAGCGCTAATGTTTATGTAAACCTTGCGCCCGCCGTCGTGAATGTG
EC189  (1) TTCGCCTGTAAAACCGCCAATGGTACCGCTATCCCTATTGGCGGTGGCAGCGCCTAATGTTTATGTAAACCTTGCGCCTGCCTGAATGTG
```

Figure 1 (b)

```
                                                                                      180
       91
J96    (91) GGGCAAAACCTGCTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
EC45   (91) GGGCAAAACCTGGTCGTAGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
B217   (91) GGGCAAAACCTGGTCGTAGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
DS17   (91) GGGCAAAACCTGGTCGTAGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
B212   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGACTATGTCACTGCAACGA
EC42   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGATTATGTCACACTGCAACGA
EC56   (91) GGGCAAAACCTGGTCGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGATTATGTCACACTGCAACGA
B210   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
B203   (91) GGGCAAAACCTGGTCGTAGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGACTATGTCACACTGCAACGA
EC58   (91) GGGCAAAACCTGGTCGTAGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGACTATGTCACACTGCAACGA
EC60   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
EC61   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGATTATGTCACACTGCAACGA
EC80   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
EC95   (91) GGGCAAAACCTGGTCGTAGATCTTTCGACCGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGACTATGTCACACTGCAACGA
EC62   (91) GGGCAAAACCTGGTCGTAGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGACTATGTCACACTGCAACGA
B238   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGATTATGTCACACTGCAACGA
B240   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAATCTTTGCCATAACGATTACCCGGAAACCATTACAGACTATGTCACACTGCAACGA
B242   (91) GGGCAAAACCTGGTCGTGGATCTTTCGACGCAAAACCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
EC189  (91) GGGCAAAACCTGGTCGTAGATCTTTCGACGCAAATCTTTGCCATAACGATTATCCGGAAACCATTACAGACTATGTCACACTGCAACGA
```

Figure 1(c)

```
                                                                                                    270
                181
J96      (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATAGTGGCAGTAGCTATCCATTTCCTACCACCAGCCGAAACG
EC45     (181)  GGTGCGGCTTATGGCCGGCCGTGTTATCTAGTTTTTCCGGGACCGTAAAATAATGGCAGTAATGGCTATCCTTTCCCTACTACCAGCCGAAACG
B217     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCTACTACCAGCCGAAACG
DS17     (181)  GGTTCGGCTTATGGCCGGCCGTGTTATCTAGTTTTTCCGGGACCGTAAAATAATGGCAGTAGCTATCCTTTCCCTACTACCAGCCGAAACG
B212     (181)  GGTTCGGCTTATGGCCGGCCGTGTTATCTAGTTTTTCCGGGATCGTAAAATAATGGCAGTAGCTATCCTTTCCCTACTACCAGCCGAAACG
EC42     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCGACCACCAGTGAAACG
EC56     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCTACCACCAGCCGAAACG
B210     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGATCGTAAAATATAGTGGCAGTAGCTATCCTTTCCCTACCACCAGCCGAAACG
B203     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCTTTCCCTACTACCAGCCGAAACG
EC58     (181)  GGTGCCGGCTTATGGCAGCCGTGTTATCTAGTTTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCTTTCCCTACTACCAGCGAAACG
EC60     (181)  GGTTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCGACCACCAGCCGAAACG
EC61     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCTACTACCAGCCGAAACG
EC80     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCTACTACCAGCGAAACG
EC95     (181)  GGTTCGGCTTATGGCCGGCCGTGTTATCTAGTTTTTCCGGGACCGTAAAATATAATGGCAGTAATAGCTATCCTTTCCCTACTACCAGCGAAACG
EC62     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATATGGCAGTAGCTATCCATTTCCACCACCAGCTGAAACG
B238     (181)  GGCTCGGCTTATGGCGGTGTTATCTAATTTTCCGGGACCGTAAAATAGTGGCAGTAGCTATCCATTTCCGACCACCAGCTGAAACG
B240     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCTTTCCTACCACCAGCCGAAACG
B242     (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCGACTACCAGCGAAACG
EC189    (181)  GGCTCGGCTTATGGCCGGCCGTGTTATCTAATTTTCCGGGACCGTAAAATATAGTGGCAGTAGCTATCCATTTCCGACCACCAGCCGAAACG
```

Figure 1 (d)

```
                                                                                    360
        271
J96    (271) CCGCCGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGCGGGGGTGGCCGATT
EC45   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGAGTGGCGATT
B217   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGCGGGGGTGGCCGATT
DS17   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGAGTGGCGATT
B212   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGAGTGGCGATT
EC42   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGAGTGGTGATT
EC56   (271) CCGCCGCGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGCGGGGTTGGCGATT
B210   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGAGTGGCGATT
B203   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGGAGTGGCGATT
EC58   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGGAGTGGCGATT
EC60   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGGAGTGGTGATT
EC61   (271) CCGCCGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGCGGGGGTGGCGATT
EC80   (271) CCGCCGGTTGTTTATTAATTCGAGAGAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGTGGCGATT
EC95   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGGTGAGCAGTGCGGGGGAGTGGCGATT
EC62   (271) CCGCGCGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGTGGGGTTGGCGATT
B238   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGTGGTTGGCGATT
B240   (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGGTTGGCGTGATT
B242   (271) CCGCGGGTTGTTTATTAATTCGAGAACGGAACGGATAAGCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGTGGGGTTGGCGATT
EC189  (271) CCGCGGGTTGTTTATTAATTCGAGAAACGGATAAGCCCGGTGGCCCGGTGGCGCTTTATTTGACGCCTGTGAGCAGTGCGGGGTGGCGGTTGGCGATT
```

Figure 1(e)

```
                                                                          450
        361
J96   (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC45  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
B217  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
DS17  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
B212  (361) AAAGCAGGCTCATTAATTGCCCTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC42  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC56  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
B210  (361) AAAGCAGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
B203  (361) AAAGCTGGCTCATTAATTGCCCTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC58  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC60  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC61  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC80  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC95  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC62  (361) AAGGCTGGCTCATTAATGCTGTGCTAATTTTGCGACAGACCAATAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
B238  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
B240  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
B242  (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAACAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
EC189 (361) AAAGCTGGCTCATTAATTGCCGTGCTTATTTTGCGACAGACCAAAAACTATAACAGCGATGATTCCAGTTTGTGTGGAATATTTACGCC
```

5/17

Figure 1(f)

		451	540
J96	(451)	AATAATGATGTGGTGGTGCCTACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCTGGACTACCCTGGTTCAGTGCCA	
EC45	(451)	AATAATGATGTGGTGGTGCCCACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCTGGACTACCCTGGTTCAGTGCCG	
B217	(451)	AATAATGATGTGGTGGTGCGTGCCTACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCTGGACTACCCTGGTTCAGTGCCA	
DS17	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTTTGCCCGGACTACCCTGGTTCAGTGCCG	
B212	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
EC42	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
EC56	(451)	AATAATGATGTGGTGGTGCGTGCCTACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCA	
B210	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
B203	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
EC58	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGTTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
EC60	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGCTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
EC61	(451)	AATAATGATGTGGTGGTGCGTGCCTACTGGCGGCGGCTGCGATGTTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCA	
EC80	(451)	AATAATGATGTGGTGGTGCGTGCCTACTGGCGGCGGCTGCGATGTTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCA	
EC95	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGTTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
EC62	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGTTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCAGACTACCCTGGTTCAGTGCCG	
B238	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGTTTTCTGCTGCGGTGATGTCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCG	
B240	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGTTTTCTGCTCATGATGTCACGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCA	
B242	(451)	AATAATGATGTGGTGGTGCGTGCCCACTGGCGGCGGCTGCGATGTTTTCTGCTCATGATGTCACGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCA	
EC189	(451)	AATAATGATGTGGTAGTGCGTGCCTACTGGCGGCGGCTGCGATGTTTTCTGCTGCGGTGATGTCACCGTTACTCTGCCCGGACTACCCTGGTTCAGTGCCA	

Figure 1(g)

```
                    541                                                              630
J96     (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC45    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
B217    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
DS17    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
B212    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC42    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC56    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
B210    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
B203    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC58    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC60    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC61    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC80    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACACACGCAGATGCGGGCAACTCGATTTTCACC
EC95    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC62    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
B238    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
B240    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
B242    (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
EC189   (541) ATTCCTCTTACCGTTTATTGTGCGAAAAGCCAAAACCTGGGGTATTACCTCTCCGGCACAACCGCAGATGCGGGCAACTCGATTTTCACC
```

Figure 1 (h)


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                           631                                                                720
J96    (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC45   (631) AATACCGGTCGTTTTCACCTGCACCCGGCCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
B217   (631) AATACCGGTCGTTTTCACCAGCCCAGGGCGTCGGCGTTCGCGTTCGTTGACGCGCAACGGTACAGTTATTCCCACGAATAACACGGTATCGTTA
DS17   (631) AATACCGGTCGTTTTCACCCGCGCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
B212   (631) AATACCGGTCGTTTTCACCCGCGCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC42   (631) AATACCGGTCGTTTTCACCCGCGCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC56   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
B210   (631) AATACCGGTCGTTTTCACCCGCCCAGGGCGTCGGCGTACAGTTGGCGCGCAACGGTACGGTTATTCCAGCGAATAACACGGTATCGTTA
B203   (631) AATACCGGTCGTTTTCACCCGCCCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC58   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC60   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC61   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCTTTA
EC80   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC95   (631) AATACCGGTCGTTTTCACCCGCCGCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC62   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTAACGCGCAACGGTACAGTTAATCCAGCGAATAACACGGTATCGTTA
B238   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
B240   (631) AATACCGGTCGTTTTCACCTGCACAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAACGAATAACACGGTATCGTTA
B242   (631) AATACCGGTCGTTTTCACCAGCGCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
EC189  (631) AATACCGGTCGTTTTCACCAGCGCAGGGCGTCGGCGTACAGTTGACGCGCAACGGTACAGTTATTCCAGCGAATAACACGGTATCGTTA
```

Figure 1(i)

```
                    721                                                                           810
J96    (721) GGAGCAGTAGGGACTTCGGCCGTGAGTCTGGGATTAACGGCAAATTATGCACGTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC45   (721) GGAGCAGTAGGGACTTCGGCCGGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
B217   (721) GGAGCAGTACGGACTTCGGCCGGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
DS17   (721) GGAGCAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
B212   (721) GGAGCAGTAGGGACTTCGGCCGGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC42   (721) GGAGCAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC56   (721) GGAGCAGTAGGGACTTCGGCCGTGAGTCTGGGATTAACGGCAAATTATGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
B210   (721) GGAGCAGTAGGGACTTCGGCCGGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
B203   (721) GGAGCAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC58   (721) GGAGCAGTAGGGACTTCGGCCGGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC60   (721) GGAGCAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCCATCG
EC61   (721) GGAGCAGTAGGGACTTCGGCCGTGGTCTGGGATTAACGGCAAATTATGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC80   (721) GGAGCAGTAGGGACTTCGGCCGGTGAGTCTGGGATTAACGGCAAATTATGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC95   (721) GGAGCAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
EC62   (721) GGAGCAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
B238   (721) GGAGCAGTAGGGACTTCGGCCGGTAAGTCTGGGATTAACGGCAAATTACGCACTTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
B240   (721) GGAGCAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACTTACGGACTACCGGAGGCCAGTGACTGCAGGGAATGTGCAATCG
B242   (721) GGAGCAGTAGGGACTTCGGCCGTGAGTCTGGGATTAACGGCAAATTACGCACCTACCGGAGGTCAGTGACTGCAGGGAATGTGCAATCG
EC189  (721) GGAACAGTAGGGACTTCGGCCGTAAGTCTGGGATTAACGGCAAATTACGCACCTACCGGCGGCAGTGACTGCAGGGAATGTGCAATCG
```

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Figure 1(j)

```
                811                              837
J96     (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC45    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
B217    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
DS17    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
B212    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC42    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC56    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
B210    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
B203    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC58    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC60    (811)   ATTATTGCCGTGACTTTTGTTTATTCAA
EC61    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC80    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC95    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC62    (811)   ATTATTGGCGCGTGACTTTTGTTTATTCAA
B238    (811)   ATTATTGCCGTGACTTTTGTTTATTCAA
B240    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
B242    (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
EC189   (811)   ATTATTGGCGCTGACTTTTGTTTATTCAA
```

Figure 2(a)

```
                          1                                                50
            B210.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPVVNVGQNLVVDLSTQIFCHNDYPE
            B212.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            B217.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            B223.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            B228.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            B238.aa    (1) FACKTANGTAIPIGGGSANVYVNLAIAVNVGQNLVVDLSTQIFCHNDYPE
            B240.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPVVNVGQNLVVDLSTQIFCHNDYPE
            B242.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQTFCHNDYPE
            DS17.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC42.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC45.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC56.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPVVNVGQNLVVDLSTQIFCHNDYPE
            EC58.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC60.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPVVNVGQNLVVDLSTQIFCHNDYPE
            EC61.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC62.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC80.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC89.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            EC95.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
            G189.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
             J96.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPVVNVGQNLVVDLSTQIFCHNDYPE
            NU14.aa    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE
          Consensus    (1) FACKTANGTAIPIGGGSANVYVNLAPAVNVGQNLVVDLSTQIFCHNDYPE


                          51                                               100
            B210.aa   (51) TITDYVTLQRGSAYGGVLSNFSGIVKYSGSSYPFPTTSETPRVVYNSRTD
            B212.aa   (51) TITDYVTLQRGSAYGGVLSSFSGIVKYNGSSYPFPTTSETPRVVYNSRTD
            B217.aa   (51) TITDYVTLQRGAAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            B223.aa   (51) TITDYVTLQRGAAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            B228.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYSGSSYPFPTTSETPRVVYNSRTD
            B238.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYSGSSYPFPTTSETPRVVYNSRTD
            B240.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYSGSSYPFPTTSETPRVVYNSRTD
            B242.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYSGSSYPFPTTSETPRVVYNSRTD
            DS17.aa   (51) TITDYVTLQRGSAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC42.aa   (51) TITDYVTLQRGSAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC45.aa   (51) TITDYVTLQRGAAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC56.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC58.aa   (51) TITDYVTLQRGSAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC60.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC61.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVEYSGSSYPFPTTSETPRVVYNSRTD
            EC62.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVEYSGSSYPFPTTSETPRVVYNSRTD
            EC80.aa   (51) TITDYVTLQRGSAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC89.aa   (51) TITDYVTLQRGSAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            EC95.aa   (51) TITDYVTLQRGSAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
            G189.aa   (51) TITDYVTLQRGSAYGGVLSSFSGTVKYSGSSYPFPTTSETPRVVYNSRTD
             J96.aa   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYSGSSYPFPTTSETPRVVYNSRTD
            NU14.aa   (51) TITDYVTLQRGAAYGGVLSSFSGTVKYNGSSYPFPTTSETPRVVYNSRTD
          Consensus   (51) TITDYVTLQRGSAYGGVLSNFSGTVKYSGSSYPFPTTSETPRVVYNSRTD
```

Figure 2(b)

```
                   101                                                150
   B210.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   B212.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   B217.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   B223.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   B228.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   B238.aa   (101) KPWPVALYLTPVSSAGGVVIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   B240.aa   (101) KPWPVALYLTPVSSAGGLVIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   B242.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   DS17.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC42.aa   (101) KPWPVALYLTPVSSAGGVVIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC45.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC56.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC58.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC60.aa   (101) KPWPVALYLTPVSSAGGVVIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC61.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC62.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLMAVLILRQTNNYNSDDFQFVWNIYA
   EC80.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC89.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   EC95.aa   (101) KPWPVALYLTLVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   G189.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTKNYNSDDFQFVWNIYA
    J96.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
   NU14.aa   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA
Consensus   (101) KPWPVALYLTPVSSAGGVAIKAGSLIAVLILRQTNNYNSDDFQFVWNIYA


                   151                                                200
   B210.aa   (151) NNDVVVPTGGCDASARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   B212.aa   (151) NNDVVVPTGGCDASARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   B217.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   B223.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   B228.aa   (151) NNDVVVPTGGCDVSAHDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   B238.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   B240.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   B242.aa   (151) NNDVVVPTGGCDVSAHDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   DS17.aa   (151) NNDVVVPTGGCDASARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   EC42.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYPGSVPIPLTVYCAKSQNLGYYLSGT
   EC45.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYPGSVPIPLTVYCAKSQNLGYYLSGT
   EC56.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYPGSVPIPLTVYCAKSQNLGYYLSGT
   EC58.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   EC60.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   EC61.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   EC62.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   EC80.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   EC89.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   EC95.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   G189.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
    J96.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
   NU14.aa   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
Consensus   (151) NNDVVVPTGGCDVSARDVTVTLPDYRGSVPIPLTVYCAKSQNLGYYLSGT
```

Figure 2(c)

```
                    201                                                250
   B210.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLARNGTVIPANNTVSLGAVGTSAVSL
   B212.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   B217.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIIPANNTVSLGAVGTSAVSL
   B223.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   B228.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIIPANNTVSLGAVGTSAVSL
   B238.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   B240.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPTNNTVSLGAVGTSAVSL
   B242.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   DS17.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   EC42.aa   (201)  TADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   EC45.aa   (201)  TADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   EC56.aa   (201)  TADAGNSIFTNTASFSPAQGVGVQLTRNGTIIIPANNTVSLGAVGTSAVSL
   EC58.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   EC60.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   EC61.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   EC62.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTINPANNTVSLGAVGTSAVSL
   EC80.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTANGTIVPANNTVSLGAVGTSAVSL
   EC89.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTANGTIVPANNTVSLGAVGTSAVSL
   EC95.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   G189.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGTVGTSAVSL
    J96.aa   (201)  TADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
   NU14.aa   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL
 Consensus   (201)  HADAGNSIFTNTASFSPAQGVGVQLTRNGTIIPANNTVSLGAVGTSAVSL


                    251                   279
   B210.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   B212.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   B217.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   B223.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   B228.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   B238.aa   (251)  GLTANYARTGGQVTAGNVQSIIGATFVYQ
   B240.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   B242.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   DS17.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC42.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC45.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC56.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC58.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC60.aa   (251)  GLTANYARTGGQVTAGNVRSIIAVTFVYQ
   EC61.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC62.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC80.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC89.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   EC95.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   G189.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
    J96.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
   NU14.aa   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
 Consensus   (251)  GLTANYARTGGQVTAGNVQSIIGVTFVYQ
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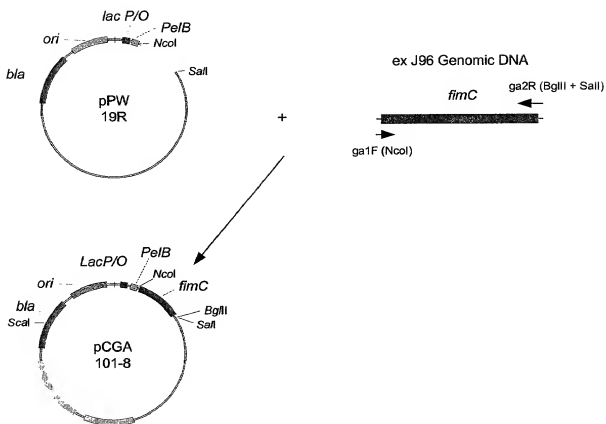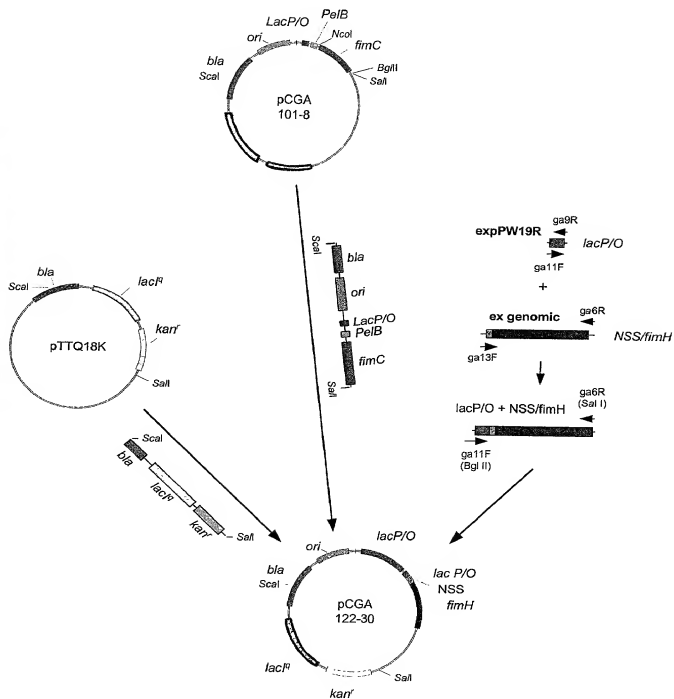
Fig. 3

Step1: Construction of pCGA101-8

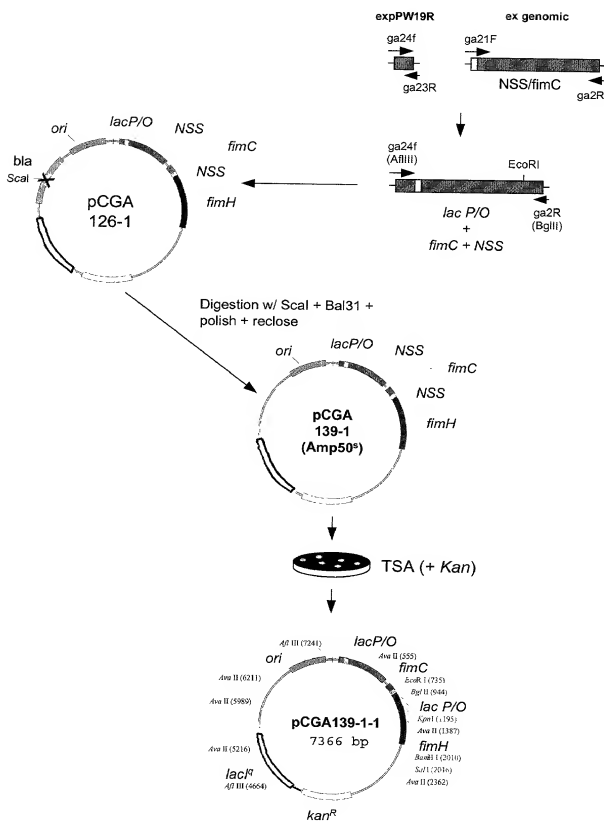## Step 2: Construction of pCGA122-30

Step 3: Selection of final clone

Fig 5.

Fig. 6

Afl III (7241)
ori
LacP/O
Ava II (555)
fimC
*Eco*R I (735)
Bgl II (944)
Lac P/O
Kpn I (1195)
Ava II (1387)
fimH
*Bam*H I (2010)
Sal I (2016)
Ava II (2362)

Ava II (6211)
bla
Ava II (5989)

Ava II (5216)

LacIQ
Afl III (4664)

kanR

pCGA139-1-1
7366 bp

17/17